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# U niversal c ore

## Information Sharing Initiative

### Update

*Presented to:*

## COI Forum

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- **UCore reported out last week**
  - CIO-C4 Principals
    - Secretary Grimes
    - All DOD CIOs
  - IC CIOs
    - ODNI Information Sharing Executives
    - 16 IC Agencies
  - Program Manager for Information Sharing Environment
    - Ambassador McNamara
    - Information Sharing Council (interagency)

**Received direction to proceed with  
Beta and production versions in FY09**

# What is the Universal Core (UCore)?



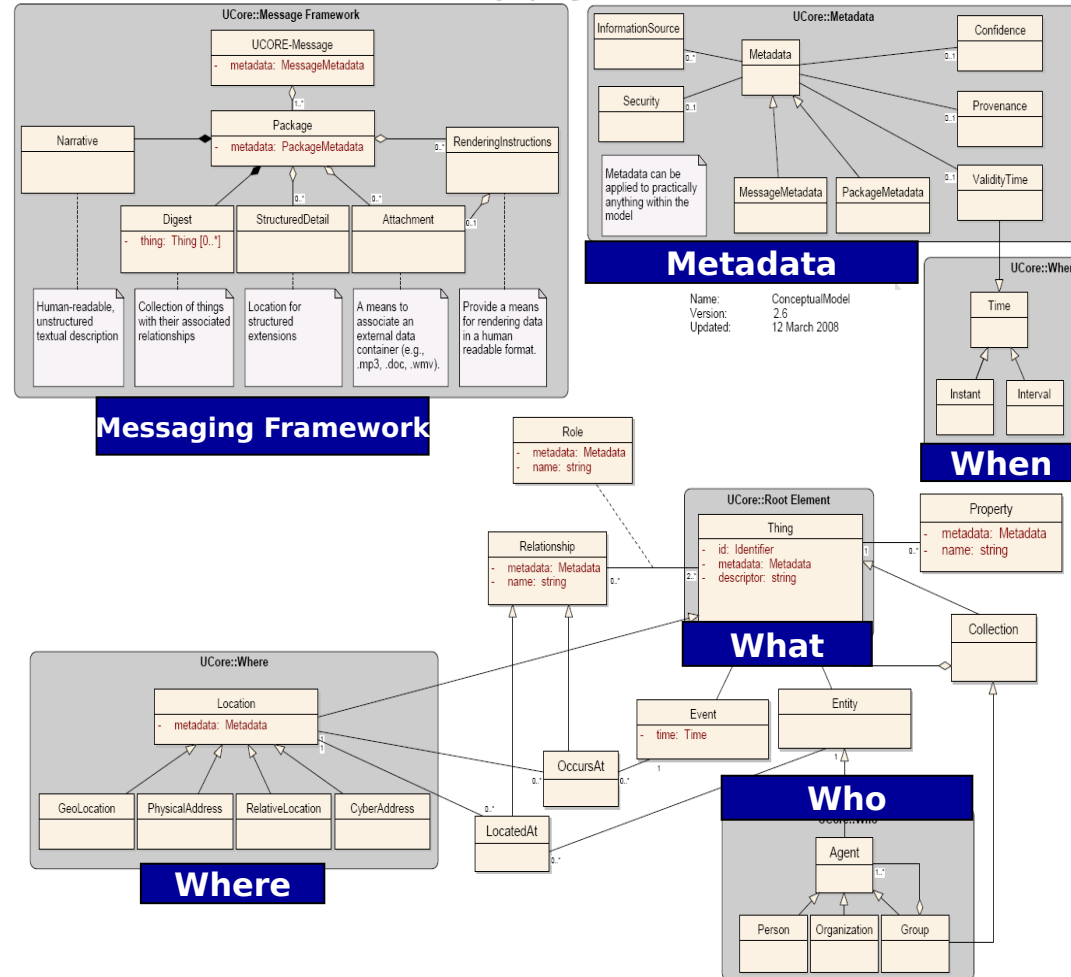
- **One functional element of the National Information Sharing Strategy**
- **An information exchange specification and Implementation profile**
  - Vocabulary of most commonly exchanged concepts
    - Who, What, When, Where
  - XML representation of the concepts
  - Extension rules to allow tailoring to specific mission areas
  - Security markings to permit controlled access, electronic tear lines
  - Messaging framework to package and unpackage the content consistently



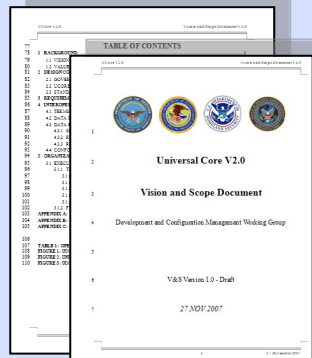
# Design Considerations

- **Keep it simple :**
  - “What”, “when”,
  - “where”, “who”
- **Design characteristics**
  - Suitability, simplicity, extensibility, supportability, leveragability
- **Build upon success:**
  - DOD COIs and NIEM, etc.
- **Open standards:**
  - XML, IC ISM, GML etc.

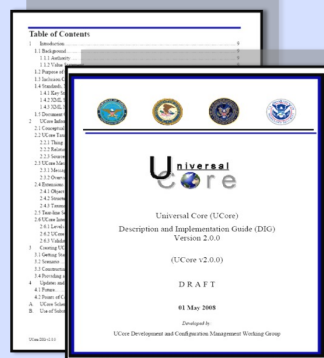
## UCore V2.0 Conceptual Data Model



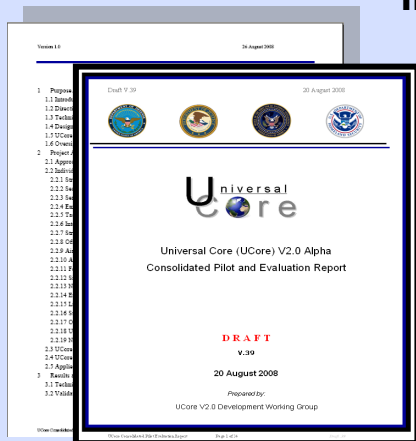
# UCore Products: FY08



**UCore V2.0 Vision and Scoping Document**



**UCore V2.0 Description and Implementation Guide**



**UCore V2.0 Alpha Consolidated Pilot and Evaluation Report**

- Draft Extension Guide
- Draft Configuration Management Plan
- UCore.gov Website (under development)

The screenshot shows the Universal Core 2.0 website interface. At the top, there is a search bar and navigation links for Home, News, Complete Documentation, Tutorial, FAQ, Taxonomy, and Contact. The main content area is titled "UCore Message Construction Tutorial" and includes a sidebar with a user menu (My account, Search, Create content, Feed aggregator, Administer, Log out) and a list of tutorial topics such as "Starting With Your Existing Information Exchange Schema", "UCore Digest Representation", "UCore Taxonomy: How UCore Represents 'What'", "The UCore DataItemPackage", "The UCore Structured Payload: Adding the Existing Schema", "Building the Complete UCore Message", "Attachments: Adding Additional Information To a Message", and "Rendering Instructions: Formatting for a UCore Message".

**On line Resources Available:**  
<https://ucore.gov>  
**Augments DoD Metadata Registry (MDR)**

# Pilot Team Metrics

- **90 Day effort**
  - April 16th to July 31st 2008
- **Participation**
  - 22 independent teams from across the federal government
- **Areas evaluated or tested**
  - 16 operational mission areas
- **Results**
  - 300 pages of artifacts: findings, files, data flow diagrams etc.
  - 3 full prototypes
  - Multiple data services and exchanges
  - An extension rules report
  - Training brief
  - 228 constructive comments
  - Dozens of lessons learned

| Pilot Name                       | Mission Functional Area                              | Lead Org      |
|----------------------------------|--|---------------|
| SKIWEB                           | Event Notification (Multinational SA)                | STRATCOM      |
| SEAHAWK                          | Maritime Domain Awareness (MIEM)                     | DOJ/MDA       |
| SENSORWEB                        | Sensor Integration (Empire Challenge)                | DIA           |
| ISPAN                            | Nuclear-Planning System Integration (SOA)            | STRATCOM      |
| EDXL                             | Emergency Management Integration                     | DHS           |
| Fed Force Tracker                | GPS to UCore Cross-agency Emergency Vehicle Tracking | ATFP          |
| Tactical Edge (MC)               | Binary VMF to UCore XML                              | USMC          |
| NECC                             | C2 Program of Record                                 | DISA          |
| SAU/COT                          | Strike / Situational Awareness Update                | AF            |
| STRIKE COI                       | COI Extensions                                       | STRATCOM/Army |
| AIR OPS COI                      | COI Extensions                                       | AF/JFCOM      |
| ONR LTE                          | Open Track Management Service                        | Navy          |
| NIEM - UCore                     | Common Framework Interoperability                    | DOJ/DOD       |
| AMPS                             | Automated Metadata Tagging                           | AF            |
| Enterprise Data Environment      | Enterprise Service Bus                               | Navy          |
| J-Series Messages                | Link-16 TADIL-J Messaging                            | Navy          |
| SAR / Extension Rules Evaluation | Extensions   | MITRE         |

# Overall Implications and Findings

- **Findings**

- ✓ Creates a starting point for vocabulary development
- ✓ More complex exchanges can be accommodate through extensions
- ✓ Permits information sharing between legacy infrastructure
- ✓ Compatible with other information sharing efforts
- ✓ Compatible with Service Oriented Architecture (SOA) pattern
- ❑ ***Requires maturing and refinement***
- ❑ ***Must have scalable governance***

- **Strategic implications**

- Federal enterprise behavior exhibited
- Latent capability being tapped
- Executive / Secretariat level support critical to success
- Demand and adoption rate expected to increase rapidly
- Human agreement the key component to improving information sharing partnerships

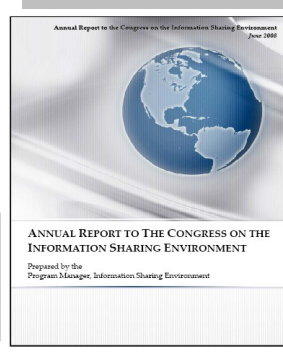
**UCore Can Contribute To Greater Operational Agility Demanded By New Missions / New Partnering**

- **UCore design excels in three areas: simplicity, context and packaging**
  - Conceptual Data Model clearly and intuitively provides a logical basis for describing the concepts of who, what, where and when.
- **Leverage existing XML code to be rapidly ported to a Web 2.0 enterprise mashup**
- **Standardizing at the exchange layer does not threaten existing system**
  - UCore can be implemented without a rip-and-replace strategy
  - Interface code can easily transform internal data structures into the external standard for sharing
  - XML developer can have working code in a matter of days and a fully tested interface live in a matter of weeks

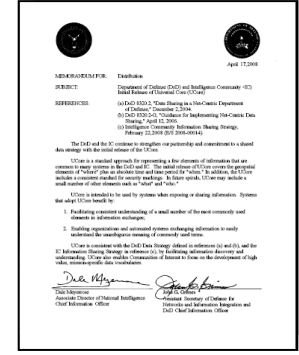
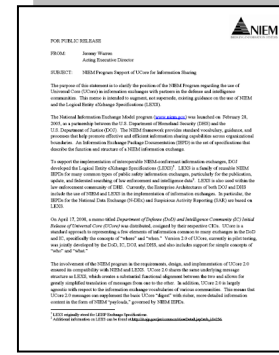
**Reference: Government Computer News article written by Michael Daconta ([http://mobile.gcn.com/articles/27\\_20/46900-1.html](http://mobile.gcn.com/articles/27_20/46900-1.html))**



# Interagency Endorsements



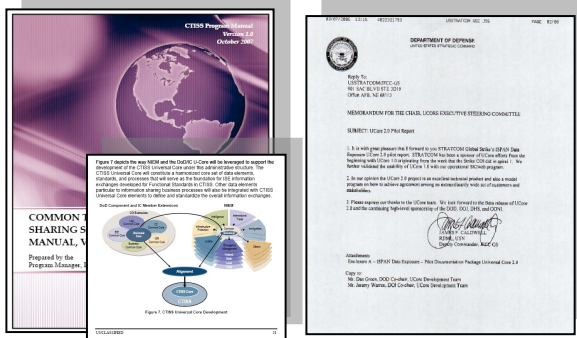
**"UCore is a "big milestone on the road to cross-boundary information sharing"**



**BTA Report to Congress PM ISE to Congress**

**Chief Architect, OMB DOJ / DHS Endorsement / IC Endorsement**

**"Because UCore has been designed to be interoperable with NIEM and LEXS, current NIEM-based systems will not need to deviate from existing implementations to share information via UCore. The NIEM Program is fully committed to ensuring that future versions of NIEM and LEXS will be similarly compatible with UCore."**  
**NIEM Program Office, Aug 2008**



**"We strongly support the program ...UCore provides a valuable opportunity to help our government share information needed to defend the country against threats..."**



**"we...proposed to leverage UCore standards as Federal UCore standards for "who, what, when, and where" since DAS is officially chartered for this. What DAS can potentially do is vet these standards across all CIO Council agencies." -**

**CTISS Program Manual**

**USSTRATCOM Endorsement**

**Chief of Data Standards, Office of ADNI/CIO**

**"Thank you and congratulations to everyone who worked on this [UCore]. This means a lot now that we have a Universal Core. I would like to offer my assistance to keep this going. Many more organizations need to hear about it. This has tremendous implications. It is a critical turning point for information sharing."**

**Government Computer News**

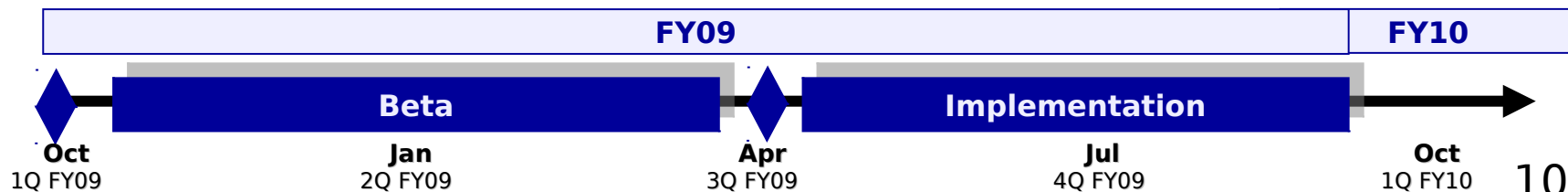
**Suzanne Acar (OCIO US DOI)**

**Ambassador McNamara, PM ISE, special assistant to the President**

**Value is Being Defined by Customers and Stakeholders**

# ***FY09 Way Ahead***

- **Establish conformance profiles validation**
- **Formalize extension rules**
- **Test in complex operational environment (EMF ACTD)**
- **Institutionalize Governance at Federal level**
- **Maintain and expand partnerships**
- **Focus on implementation**



***Questions?***